Vedhas Deshpande

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Objective:

Seeking a position as an intern in computer systems and engineering domain leveraging my professional experience and educational qualification.

Education:

University of North Carolina at Charlotte
Master of Science (M.S), Electrical and Computer Engineering *Aug 2014 – pursuing*
GPA: 3.67/4.0
Relevant Coursework: Embedded Systems, Mobile Devices and BigData, Research Tools and Techniques, Advanced Embedded Systems, Real-Time Operating Systems, Fundamentals of Wireless Systems & Protocols.

University of Pune
Bachelor of Engineering (B.E), Electronics and Telecommunications *May 2013*
GPA: 3.74/4.0.
Relevant Coursework: Automotive Electronics, Embedded and Real Time Systems, Data Structures, Computer Organization and Architecture, Micro-controllers and Applications, Mobile Communication, System Programming and Operating Systems, Digital Signal Processing, Computer Networks, Electronic Product Design.

Technical skills:

- **Programming/Query languages:** C, embedded C/C++, C++, HTML, Java, Android SDK, MySQL, Matlab, shell scripting, Hadoop/MapReduce, JavaScript, PHP, Python.
- **Hardware development languages:** VHDL.
- **Operating systems:** Windows, Android, Linux, uCOS II/III, FreeRTOS.
- **Micro-controllers:** ATMega 16, Renesas RX63N, NXP LPC2148, TI MSP430, Raspberry Pi, XBee 2, XBee S6B.
- **Protocols:** UART, I2C, SPI, CAN, ZigBee, NFC.
- **Applications:** High performance Embedded Workshop (HEW), LaTeX, Eclipse IDE, Xilinx ISE, Android Studio, e^{2}Studio, TI code composer, Altium Designer, Eagle PCB, Cadence OrCAD.

Work Experience:

- **Amdocs.** Pune, India
  SME Trainee *October 2013 - June 2014*
  Performed end to end system integration testing for AT&T Uverse, on applications like Amdocs CRM, Amdocs OMS (BSS applications). Planned, designed and reviewed test cases and validations according to high level documentation. Coordinated manual testing, defect analysis, defect triage with internal teams as well as third party vendor teams.
  Tools utilized: PuTTY, HP QC/ALM, JIRA, SQL, Splunk, XML, Toad for Oracle.

- **KPIT Cummins Infosystems.** Pune, India
  Intern *September 2013 - October 2013*
  Three weeks' training cum internship in Matlab, Simulink and Stateflow. Developed Matlab script for searching Matlab files in any given path. Implemented a state machine logic in Stateflow.
  Tools utilized: Matlab, Stateflow, Simulink.

- **Robota Corporation.** Pune, India
  Project Intern *July 2012- December 2012*
  Managed designing, coding, testing and debugging of NFC based “Access Control Panel”. Access control panel detected the MiFare NFC 1k, 4k cards with its unique ID and parsed the ID via XBee for user authentication.
  Tools utilized: Altium designer, Keil MDK.

Available to relocate and/or travel.

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Projects:

- **Embedded data router for nuclear waste monitoring** *Ongoing*
  Currently working on design and execution of a routing table on micro-controller, which will use IP stack for sending plant data to various nodes. The router will perform some basic processing and analysis before routing data.

- **Internet of Things with RTOS** *November 2014*
  Implemented uCOSIII on Renesas RX63N evaluation board and integrated the cloud based application, exosite for device monitoring and reporting. The embedded device communicated with cloud using exosite's HTTP POST and GET methods in C. The data is passed in form of name value pairs.

- **Mobile Devices in Smart Grid** *November 2014*
  Devised schedule optimization in utility power domain based on day ahead cost structure and on spot pricing using simulated annealing algorithm programmed in Hadoop/MapReduce framework. Developed android application for user profile login, with ability to create personal database of appliances and schedule. Server client interaction was achieved using HTTP POST and GET requests, PHP scripts and JSON objects. Automated scheduling using bash scripts.

- **Senior Design Project: NFC Business card reader** *May 2013*
  A peer to peer virtual business card exchange through NFC. Interfaced NXP LPC2148 controller to NXP PN531 module. Communication was achieved by sending data frames at the data link layer in HEX format. Received virtual business card was stored onto microSD card interfaced through SPI. FAT16 was used as file system on microSD.

- **JDM based hardware programmer** *May 2012*
  Deployed the popular JDM hardware programmer circuit for PIC micro-controller. Designed schematic and layout using OrCAD.

Relevant Coursework Labs:

- **Stock market analysis:**
  Developed a Java application using Hadoop/MapReduce framework that exhibits Markov's chain rule in predicting the probability of stock quote being bearish, bullish or stagnant.
- **Shopping Cart:**
  Developed an Android application, which implements a desert shoppee's shopping cart and calculates rates and taxes based on item selected and the quantity selected. This lab exercised thorough inheritance, interface and OOPS concepts.
- **Embedded LCD Game - Top Gun:**
  Collision avoidance based game implemented on Renesas RX63N. Drew various bitmaps on LCD.
- **Custom ADC and UART libraries:**
  Created UART and ADC libraries for Renesas RX63N which are further used in many labs and projects.
- **Digital Oscilloscope:**
  Analog voltage values ranging from 0 to 3.3V were displayed on RX63N board's LCD in a scrolling fashion.
- **Digital Watch:**
  Designed a digital watch on Renesas RX63N using RTC. The digital watch had the capability of alarm, stopwatch and time setting with LCD back-light timer.
- **Digital surface level:**
  Demonstrated a digital surface level using TI MSP430 and ADXL337 accelerometer. The device had 5 LEDs to display the tilt level and a calibration switch.
- **Internet Data Logger with XBee S6B module:**
  Interfaced Xbee WiFi module with Renesas RX63N to create an internet data logger, which reports the temperature sensor values to the SparkFun data stream using HTTP POST methods.

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